



JUNE 1980

Book VI Vol VI

Official Journal of the Wellesley Amateur Radio Society

BOSTON MARATHON

by Nels Anderson, K1UR

At high noon on April 21 the 1980 running of the BAA Boston Marathon took off from Hopkinton toward the finish line in front of the Prudential building in downtown Boston. Once again the Wellesley Amateur Radio Society provided communications for the race officials at the checkpoints, the start and finish line areas, the two buses which follow the runners, and all around the Prudential building.



Some of the marathon Prudential crew. From left to right, AF1M, N2AWG, K1IR, WA1Y0J, WA1PQY. In front K1TK.

EVENTS

At the May 1st meeting we were privileged to have as our speaker Bruce Eggers, WA9NEW, on the topic of over the horizon radar. He is involved with the U.S. Air Force over the horizon radar development program which is now taking place in Maine with the construction recently having been completed. Bruce is a meteorologist so he is obviously not directly involved in the construction of the radar, but his job is very important because of the major effect the atmosphere has on radar in the HF region.

Bruce's talk included diagrams showing the basics of radar plus some photographs of the actual installation. The station is really something by any standards, including two antennas over a hundred miles apart, each of which is several thousand feet long. The transmitter uses 12 4CW100000 tubes (for those not familiar with Eimac tubes, that's W as in water cooled and 100000 as in watts!) and feed lines that look more like water pipes than anything else. I wonder where they get connectors for three inch diameter coax?

Bruce's talk concluded after about an hour with a question and answer session. □

This is the third year that we have been associated with the marathon, which is a world class event and one of the oldest athletic events in the world. As in the past, our control center monitored WWV to provide an exact 12:00 pm starting time and once again it went off without a hitch. This year two nets were used as in the past it was found that a checkpoint station would often still be sending information when the next station already had information on the leaders. By alternating the checkpoint on the different frequencies this problem was

MEETINGS THIS MONTH:

June 5, 1980 at 7:30 pm

June 19, 1980 at 7:30 pm

Intermediate Bldg., Wellesley Hills, Mass.

avoided. The two nets took place on 146.04/64 and 147.75/15 and provided information on placement of the various categories (including the controversial women's category) as well as the time of the race leader.

At the Prudential/finish line area several direct frequencies were used on two meters as well as a 450 MHz frequency used to pass information to the press room. At the control center on the 20th floor several stations were each manned by an operator so that both nets and the local direct frequencies would always have an operator present.



Can you see marathon leader Bill Rodgers on the course? Don't feel bad, most of the spectators probably couldn't either. This is the scene at the checkpoint in front of Boston College.

Also new this year was an experiment in having us time the race leader at each checkpoint. A stop watch with the official race time was kept at the control station and at each checkpoint the operator there would notify the control station of the exact instant when the leader crossed the checkpoint mark. Times were successfully taken at each checkpoint, including the 5, 10, 15, and 20 mile checkpoints which were added this year, and when the officials checked our times after the race found that all our times were within one second of the official times. The success of this experiment opens up

the possibility of taking all checkpoint times by radio next year without the need for the officials to stop at the checkpoints.

Once again Amateur Radio proved its worth at a major event. All operators are to be commended for their efforts during the marathon. The following stations are known to be active during the race, plus additional stations not listed which were added at the last minute: WA1PQY, WA1YOJ, WA1TBY, K1TK, WB7TPY, N2AWG, K1PDX, WB1FCO, W1HSS, W1EGE, WB2SBW, KA1HG, WB1DNZ, N1ADY, WB1AJA, N1AWX, WA1YAU, W1MJ, WB1BUM, K1BA, KA1BJY, W1XA, WA2ORV, WA1YHV, K1UR, WA1ZLQ, WB1EZT, KA1CGP, AF1M, K1IR. □

hr REPORT

Almost half the Amateur violations for which citations were sent during a recent six-month period were for operation outside the authorized subband, according to an FCC review for HR Report. Next most frequent violation was failure to transmit required ID, almost 20%. Total violations observed, however, was only 192.

hr Report, April 18, 1980

Dr. Perry Klein, W3PK, AMSAT's president and general manager, has announced his resignation, effective June 1. Perry has served at the AMSAT helm since the organization's inception in 1969. He guided it from its small beginnings to a worldwide organization of nearly 5000 members.

Perry's vast contributions have brought wide-spread recognition and credit to this unique Amateur Radio endeavor. He will continue to serve as a consultant and becomes AMSAT's president emeritus.

Dr. Tom Clark, W3IWI, AMSAT executive vice president, becomes acting president on June 1. John Henry, VE2VQ has been named first alternate director and will fill Perry's seat on the AMSAT board of directors. They will serve until the board meets in September and elects new permanent officers.

hr Report, May 2, 1980 □

The Spark Gap

Official Journal of the Wellesley Amateur Radio Society



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THE "SPARK GAP" IS A MONTHLY PUBLICATION OF THE WELLESLEY AMATEUR RADIO SOCIETY. ITS PRIMARY PURPOSE IS TO KEEP ITS MEMBERS ABREAST OF CURRENT HAPPENINGS, F.C.C. RULES & REGULATIONS CHANGES, AND TO LIST EQUIPMENT OFFERED FOR SALE OR TRADE BY MEMBERS. MEMBERS ARE ENCOURAGED TO CONTRIBUTE TO THE "SPARK GAP" AND MAY SENT THEIR ARTICLES (TYPEWRITTEN IF POSSIBLE) TO THE EDITOR-IN-CHIEF OR TO THE CLUB ADDRESS.

THE WELLESLEY AMATEUR RADIO SOCIETY IS A NON-PROFIT ORGANIZATION DEDICATED TO THE PROMOTION OF AMATEUR RADIO THROUGH INSTRUCTION, FELLOWSHIP, DEMONSTRATION, AND ENCOURAGEMENT OF PARTICIPATION. ANNUAL MEMBERSHIP IN THE SOCIETY IS \$8. THE CLUB YEAR RUNS SEPTEMBER 1 TO AUGUST 31. AMATEUR NOVICE AND GENERAL CLASSES ARE CONDUCTED REGULARLY AT NO COST. TO ENROLL IN A CLASS, OR GAIN INFORMATION ABOUT THE SOCIETY IN GENERAL, WRITE:

THE WELLESLEY AMATEUR RADIO SOCIETY
324 WASHINGTON STREET
WELLESLEY HILLS, MASS. 02181



Executive Minutes

Meeting of May 7, 1980:

The meeting was opened at 7:49 pm by President Bill Downing, WA1PQY.

The upcoming election of officers was discussed and it was decided not to print up special ballots for the election meeting.

The subject of Amateur Radio participation in Operation Sail was discussed and it was decided that at this time the club as a group would be unable to participate, but individuals would be encouraged to help out.

Due to the inability to contact the operating activities chairman, the responsibilities for Field Day were delegated among the members of the executive committee.

The antique car race in Wellesley was briefly discussed.

The repeater was also discussed and it was announced that Dick Paret, WA1ZLQ, would be talking with the Newton Wellesley Hospital people on May 14th about the repeater.

The subject of having another flea market this fall was brought up. Some sites were suggested and will be looked into.

The meeting was closed at 10:07 pm.□

Minutes

Meeting of April 17, 1980:

The meeting was opened at 7:50 pm by President Bill Downing, WA1PQY.

The minutes of the last meeting and the treasurer's report were read.

Bill Downing, WA1PQY, went over the final details of the BAA Marathon.

Jim Hatherley, WA1TBY, brought up the need for people for Operation Sail between May 30 and June 3.

Glenn Brodie, N1ACN, discussed the auto race and VHF contest to be held on Mt. Equinox, Vermont. It has been firmly decided that the two will be on different weekends.

Dick Paret, WA1ZLQ, mentioned that people were still needed for the Bika-A-Thon and Charles River Run to both be held May 4.

It was announced that a meeting to discuss the future of the 63/03 repeater would be held at the club on May 29 at 7:30 pm.

Meeting of May 1, 1980:

The meeting was opened at 7:35 pm by President Bill Downing, WA1PQY.

The minutes of the previous meeting were read.

Bill Downing, WA1PQY, thanked all those who helped with the BAA Marathon communications and made it a big success for the third straight year.

It was mentioned that people were still needed for the Bike-A-Thon to be held May 4th, and those participating should meet at the High School that day at 8:30 am.

It was again mentioned that the Red Cross was looking for help during Operation Sail at the end of the month.

The treasurer's report was given, including the final report on the auction.

Dick Paret made a motion to spend \$50.00 for gas for the VHF Contest in June. The motion was passed.

The remainder of the meeting was devoted to a talk on over the horizon radar by Bruce Eggers, WA9NEW.

The meeting was closed at 9:10 pm.□

CHUCKLE KORNELL

QSL VIA TIME-WARP BUREAU

by Pete Bradley, N1ADX

I have sometimes wondered what Amateur radio will be like in the future. Recently I had a chance to find out. My wife and I visited the Space Center at Houston, Texas. It was a very hot and humid day and we had returned to our car, tired but happy. We sat on a grassy bank and stared at the three rockets which stand guard over the visitor's parking lot.

I reached into the car for my two-meter hand-held. "This is N1ADX portable 5 listening."

I heard a reply, weak and distorted. The voice had a metallic ring. "N1ADX here is ND5FZV."

I told him his audio was distorted and he muttered something about interfacial E/F scatter and airborne repeaters. I asked him to repeat his call.

"This is ND5FZV at my home in Houston. My name is Rick."

"With a call like that you must be a bootlegger," I thought to myself. "I'd better keep you talking until you give yourself away."

"Good afternoon, Rick, my name is Pete. I've been visiting the Space Center and I'm taking a rest-break before driving back to my hotel. My wife and I are visiting from New England. Could you give me a description of your QTH please?"

His reply was a careful one, I thought. "I'm on the east side of Houston near Nixon Square in 1993."

"Is 1993 your street address or box number?" I asked.

"It's the year, Pete. What year are you in?"

I told him "1980."

"That's great." He sounded very excited now. "I need you for my WAY."

I tried not to sound too doubtful. "That's for Worked All Years award I suppose? Give me your address and I'll send you my QSL."

After he gave me the box number of the Time-Warp Bureau in Hackensack, New Jersey, I told him my license didn't cover conversations with the future.

"Amateur Radio has come a long way in 13 years, Pete." I was beginning to wonder if he really believed this time warp stuff. He went on, "My signal has video, color and phone all 60 degree out-of-phase and no wider than a single sideband signal."

His voice then faded away in a manner which I assume to be characteristic of interfacial scatter, so I signed and switched off the radio.

A few days later, back in Massachusetts, I was writing QSL cards from contacts in my mini-log and I know that I made one out to ND5FZV. I didn't intend to mail that card but I think my wife might have mailed it.

Six weeks later I received an envelope from the Time-Warp Bureau. The envelope contained a single QSL card from ND5FZV and a rather somber note from the bureau about their SASE policy. The postmark on the card says 1993 and the street where Rick lives does not exist in Houston...yet! So if you have had a similar experience with interfacial scatter please write and tell me about it; I'll give you the address of the bureau. □

--from Worldradio, March 1980

hr REPORT

Brewer Labs, recently shut down by the FCC for manufacturing and marketing linears for 11 meters, has been slapped with a permanent injunction against continued marketing of RF power amplifiers and amplifier kits. In its injunction the court also included Brewer's "CW transmitters," which can be quickly converted to CB amplifiers.

Such devices continue to pop up, however. D and A Manufacturing in Nebraska even had a 140 watt, 20 meter, Novice (!) CW transmitter in their line, and Tennessee Electronics in Memphis lists about three dozen linears from 30 to 5000 watts in its current inventory. FCC continues its efforts to shut down the outlaw manufacturers and distributors, so Amateurs who receive mailings from such outfits should send them to John Rees, Room 7202, FCC, Washington, DC 20554.

hr Report, March 28, 1980 □

It Seems to Me...

by WB4BAB, from "Circlegram" (Portsmouth ARC), via ARNS

People who achieve top levels of success are often referred to as "extra class". These may be anyone, young man/lady, salesperson, Indian chief or Amateur operator. The search for qualities that contribute to personal achievement is never ending.

Why is it so difficult to pinpoint pathways to success. One thing we know is that people are different. It has been said that there are at least three classifications. These are "all outs," "holdouts," and "drop outs." Obviously the "all outs" have desire, commitment and dedications..."

Desire is the starting place. No one has made it to the top without an internal push to do so. Ask any winner, invariably the answer will reflect the feeling that says, "It looks like fun and I knew I could do it if I tried."

Commitment is a must, its mental guidance system that sets priorities to keep us on course. It's like the battery in your car, when energized the car starts and moves forward. It generates internal momentum. Without commitment you are like a child learning to ride a new bicycle, you fall repeatedly because you don't have momentum.

Dedication to a goal, level, or ham club, motivates people to excel. Willingness to share the fruits of our efforts such as public service motivates others to help. It is difficult for many to reach the top alone, so let's create a team spirit on the way up.

"All outers," are those who have a desire to know, are committed to action and dedicated to the club's purposes. □

education corner



Bill Downing, WA1PQY, has extended the General Class seminars for several more weeks. Anyone interested should stop by the club any Wednesday (except June 4) at 8:00 pm. Also, the Novice class is still going on Tuesdays starting at 7:00 pm. □

ELECTRONICS EXCHANGE

For Sale: General HF coverage military receiver. R-390A SSB/CW/AM/RTTY, with cabinet, dust covers, crystals and ovens, cables, and manual complete. Professionally overhauled. Mint. \$500. Amateur HF transceiver. Tempo One, with AC-One power supply and speaker, plus Astatic D-104-C mike and stand with pre-amp. Mint \$375.

General Purpose Oscilloscope, B & K Precision 1403A. Mint \$75. Pick-up only on above items. Call 617-785-1423 (Dover, Mass.).

For Sale: KDK FM-144 two meter synthesized FM transceiver. Covers 144-149 MHz, 15 watts nominal. Repair manuals, microphone, mobile mounting bracket, power cords.

Standard SRC-146A handie-talkie, with touch-tone pad, desk charger, leather case, four antennas, twelve pairs of crystals.

Best offer on above two meter rigs. Call Dick, WA1ZLQ, at 762-5074.

For Sale: ICOM IC-245/SSB two meter synthesized multi-mode transceiver. Covers 144-148 MHz on FM/SSB/CW. Very flexible for SSB operation, OSCAR, odd repeater splits. Includes mike, power cord, mobile mounting bracket. Asking \$375. Call Nels Anderson, K1UR at 323-5029. □

hr REPORT

Non-government DF operations on 420 to 450 MHz would not be discontinued after January 1 under General Docket 80-135, a Notice of Proposed Rule Making recently adopted by the FCC. In Parts 2 and 90 of the Commission's rules all non-government radio location operations on 420-450 MHz (where Amateur Radio is secondary to government radio location) were to have ceased January 1, 1981. These operations, used principally for positioning of off-shore oil well drilling rigs, had caused considerable controversy in the Amateur community when authorized a few years ago.

hr Report, May 2, 1980 □

OLDE TIME RADIO

by Jim Idelson, K1IR

Part Three

The year 1921 was a time of firsts in the broadcasting industry. KDKA made the first remote church broadcast, the first regular broadcast of baseball scores, the first stock market reports and the first World Series game broadcasts.

In early 1921, Westinghouse Vice President Harry P. Davis decided that it would be good to broadcast band concerts. The Westinghouse band was put to work. A problem was encountered immediately--what to use as a studio. The "penthouse" was much too small. First, an auditorium in East Pittsburgh was tried, but resonance caused distortion in the broadcasts. This was unacceptable. After a number of attempts to cure the problem, Conrad decided to try outdoor concerts. The difficulty disappeared, so the station was moved back to the roof where, when it wasn't raining, rooftop concerts were broadcast. In an effort to eliminate interference with programming by the weather, a large tent was erected to house the band. This worked exceptionally well, and became KDKA's home through the spring and summer of 1921.

The first boxing event to be broadcast was a minor bout between Johnny Ray and Johnny Dundee, on April 11, 1921. There was very little significance to the fight except that it was the first time that an attempt was made to provide a blow-by-blow description.

Owen D. Young, sculptor of the almost-complete RCA, observed the Westinghouse rise in radio. He soon decided that he must have Westinghouse in alliance. Arrangements were made, and the agreement was signed on June 30, 1921. Of course, included were the all important cross-licensing agreements. Now the alliance had every available patent at its disposal. A virtual monopoly existed in the form of RCA.

David Sarnoff, now General Manager of RCA, wanted to enter RCA into the

broadcasting competition. It was his idea to broadcast the world championship heavyweight prize fight between Jack Dempsey of the United States and Georges Carpentier of France. The on commercial broadcaster at the time was KDKA and it was too far from the arena site in New Jersey to be of any use. Mr. Sarnoff asked Major J. Andrew White, editor of Wireless Age, for help in getting the broadcast off the ground. White contracted two radio technicians, Harry Walker and J.O. Smith. Quite luckily, they were able to locate a transmitter, just completed by General Electric Company and intended for the United States Navy.

As well as managing to borrow the transmitter, White persuaded officials of the Lackawanna Railroad to allow him to use a shack in the railroad yard and two experimental wireless towers between which an antenna could be strung. The yard was in Hoboken, New Jersey. The Pullman porters, who used the shack to change their clothes in, did not take kindly to the thought of their haven being used as a radio equipment enclosure. As the equipment was brought in, they threatened violence and promised to destroy the apparatus. One of the three radio men had to stand guard by the gear at all times.

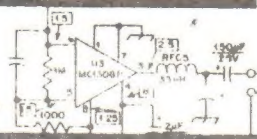
Finally, the fight began, with White at ringside and Smith at the transmitter. White would be doing the blow-by-blow over telephone lines to Smith, who would do his best to voice exactly what White said, over the air. Between rounds, Smith at the transmitter telephoned back to White his O.K. of the transmission. Smith was having his troubles. Standing close to the transmitter, he was partially blind for days afterwards from the glaring tubes. The equipment was not built for continuous service with the power that was being used. It became hotter and hotter. In the middle of the last round, having been on the air for more than four hours, one tube exploded. Smith pulled the base from the socket and quickly inserted a new one. After the final signing off he went to the hospital to have the palms of his burned hands bandaged. Before the end of the fight the transmitter began to smoke and shortly after the finish of

(In the next issue the expansion of radio broadcasting in the 1920's is examined.)

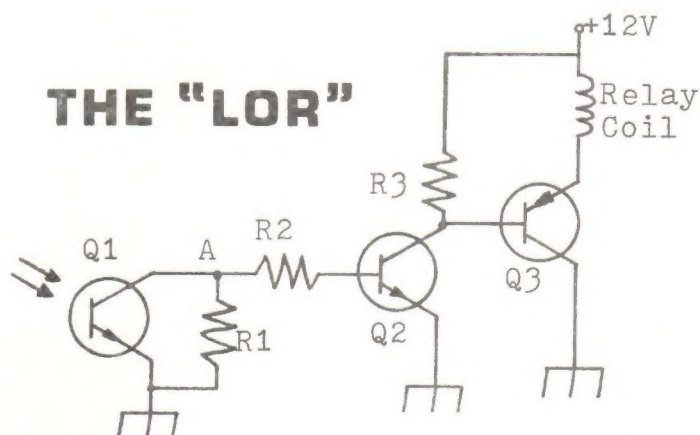
OFFICERS

Dick Paret, WA1ZLQ, 762-5074

Tek Tok



The circuit has many possible uses, from use as a COR on a repeater to turning house lights on at night.



- Q1-Radio Shack RS 270-130 R1-510kΩ
Q2-2N2222 NPN R2-100kΩ
Q3-2N1132 PNP R3-3kΩ

STATION ACTIVITIES

June is the month for outdoor activities for the club, namely the June VHF Contest and Field Day. Both events offer an opportunity to "get away from it all" and try out operating from a different location. If you plan to attend either of these events, it would be a good idea to come to the planning meetings during June. The two contests are coming up on the weekends of June 14-15 for the VHF Contest and June 28-29 for Field Day, so much of the business at the June club meetings will concern final details for these events. If you cannot attend the Thursday night meetings and would like to come to one or both of these events please let one of the officers know as soon as possible. □

hr REPORT

The FCC is in China, with an impressive delegation of Commissioners and top officials meeting with their Chinese counterparts. Chairman Ferris plus Commissioners Lee, Fogarty, and Brown and representatives of the Common Carrier, Broadcast, and Private Radio Bureaus plus the Office of the Chief Scientist make up the group which will be in China for about two weeks.

Chinese communications technology is surprisingly advanced, according to recent visitors, but Chinese officials who've visited the U.S. and others who've had contact with their FCC counterparts have been extremely interested in the U.S. regulatory structure. Discussions of broadcasting appear to have the top priority, but all aspects of radio communications--including Amateur Radio--should be covered during the trip.

hr Report, May 9, 1980

FCC's new Amateur exams should come into use sometime in June, as they've now been printed and ample supplies sent to all field offices. However, before the changeover can take place the field offices must acknowledge receipt; only then can Washington announce the date on which all will make the change.

hr Report, May 9, 1980

AMSAT Phase III status: Final checks and tests on the satellite were completed May 5, with everything OK. The spacecraft has been "buttoned up" and is now mounted atop the launch vehicle. The American AMSAT team has returned to the states; two members of the German group will be babysitting until launch on May 23rd.

hr Report, May 9, 1980

General Motors has been granted an FCC license to build and operate an experimental radio station, KF2XHE, on various discrete frequencies between 1.8 and 470 MHz. It's to be used to determine the susceptibility of automotive electronic systems to electromagnetic radiation, an area in which Amateur Radio has caused problems with poorly designed electronic ignition and braking.

hr Report, May 9, 1980

CB is back where it was five years ago, before the gas shortage and TV publicity triggered the big CB boom. Current license statistics show CB applications (69,000 in March) running at just the same rate they were five years ago, and only 17% of those whose CB licenses are expiring are bothering to renew them.

hr Report, May 9, 1980

The annual picnic with the Middlesex club is scheduled for Sunday July 20, with a rain date of August 9, 1980 at the Auburndale Playground, Newton (same as last year). □



"If you don't want any QRM from your XYL you'd better QRT, OM."